



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,780	05/01/2001	Hongdong Roy Tan	0225-0062.30	6699

22918 7590 09/25/2003

PERKINS COIE LLP
P.O. BOX 2168
MENLO PARK, CA 94026

EXAMINER

NOGUEROLA, ALEXANDER STÉPHAN

ART UNIT

PAPER NUMBER

1753

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/847,780

Applicant(s)

TAN ET AL

Examiner

ALEX NOGUEROLA

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☒ Claim(s) 7 and 15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

Specification

1. The disclosure is objected to because of the following informalities:
 - a) Page 4, line 16: the numeral -- 5 -- should be inserted between "Fig." and "is;
 - b) Page 4, line 18: "Fig. 6 is" should be -- Figs. 6A-6F are --; and
 - c) Page 4, line 18: "electrophoregram" should be -- electropherograms --.

Appropriate correction is required.

Claim Objections

2. Claims 7 and 15 are objected to because of the following informalities:
 - a) Claim 7: "ethy6l"; and
 - b) Claim 15: "channel'" should be -- channel, --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

- a) Claim 1, line 3: should "0.05 to 7.5%" be -- 0.05 to 7.5 wt% --?;
- b) Claim 2, line 1: "for use with a" should be -- wherein the -- and "having" should be has --?;
- c) Claim 3, line 2: "substrate," should be -- substrate, and --
- d) Claim 3, line 2: should "diethyl" be -- diethylacrylamide --?
- e) Claim 4, line 1: is "the ratio" a weight ratio?
- f) Claim 4 recites the limitation "N,N-diethyl acrylamide" in line 1. There is insufficient antecedent basis for this limitation in the claim;
- g) Claim 4 recites the limitation "N,N-dimethylacrylamide" in line 2. There is insufficient antecedent basis for this limitation in the claim;
- h) Claim 5, line 1: the first occurrence of "for use with" should be deleted;
- i) Claim 5 recites the limitation "N,N-diethyl acrylamide" in line 2. There is insufficient antecedent basis for this limitation in the claim;
- j) Claim 5 recites the limitation "N,N-dimethyl acrylamide" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim;
- k) Claim 5, line 2: is "the ratio" a weight ratio?

Art Unit: 1753

- l) Claim 8: "a dsDNA denaturing amount of a denaturing agent." should be -- a dsDNA denaturing agent --;
- m) Claim 10, line 3: should "0.05 to 7.5%" be -- 0.05 to 7.5 wt% --?;
- n) Claim 12, line 2: should "diethyl" be -- diethylacrylamide --?
- o) Claim 13 recites the limitation "N,N-diethyl acrylamide" in line 1. There is insufficient antecedent basis for this limitation in the claim;
- p) Claim 13 recites the limitation "N,N-dimethylacrylamide" in line 2. There is insufficient antecedent basis for this limitation in the claim;
- q) Claim 13, line 2: is "the ratio" a weight ratio?
- r) Claim 14, line 2: is "the ratio" a weight ratio?
- s) Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting an essential step, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted step is a coating step (page 12, lines 17-22 of the specification), which should also be listed in the last line of the claim; and
- t) Claim 16: should "3" be -- 15 --?

Note that dependent claims will have the deficiencies of base and intervening claims.

Art Unit: 1753

Allowable Subject Matter

4. The following is a statement of reasons for the indication of allowable subject matter:

a) Claims 1 and 10 each require the coating polymer to be less water soluble than the sieving polymer.

The sieving and coating polymer composition of Hong et al. ("Improved Resolution in the Capillary Electrophoretic Separation of DNA Fragments by Using Mixed Polymer Matrix with Hydroxyethylcellulose and Polyvinylpyrrolidone [sic]," *Fenxi Kexue Xuebao* (1999), 15(6), 441-445) comprises polyvinylpyrrolidone, as the coating polymer portion of the sieving and coating polymer composition, and also as a component of the sieving polymer portion of the sieving and coating polymer composition. Hydroxyethylcellulose, is also as a component of the sieving polymer portion of the sieving and coating polymer composition. Both polyvinylpyrrolidone and hydroxyethylcellulose, however, are readily soluble in water (For the ready water solubility of polyvinylpyrrolidone see *Properties of Poly(N-vinylpyrrolidone) (PNVP)* on page 1304 of the "Concise Encyclopedia of Polymer Science and Engineering," ed. J. Kroschwitz, 1990. For the ready solubility of hydroxyethylcellulose see *Hydroxyethylcellulose* on page 2 of "Water-Soluble Cellulose Ethers for Hair Care Products," by Mary Clarke, Hercules Reprint SÖFW 17/1990);

b) Claims 2-9, 15, and 16 depend directly or indirectly from allowable independent claim 1; and


c) Claims 11-14 depend directly or indirectly from allowable independent claim 10.

Art Unit: 1753

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX NOGUEROLA whose telephone number is (703) 305-5686. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NAM NGUYEN can be reached on (703) 308-3322. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Alex Noguerola